ating properly and provides for automatically diverting orders and bottles for manual inspection for problems in the automatic system that have been detected.

The above description is of a preferred embodiment of the invention and modification may be made thereto without departing from the spirit and scope of the invention which is defined in the appended claims.

We claim:

1. An automatic prescription filling and packing system comprising pill dispensing machines to automatically count out and dispense pills into prescription bottles in accordance with prescription orders, means to print literature packs customized to said prescription orders, and order consolidation means to present a shipping container for each order, to insert the prescription bottle for said order into such shipping container and to insert, separately from any prescription bottle inserted into the shipping container, the literature pack for said order into such shipping container.

2. The system as recited in claim 1, wherein some of said prescription orders include a plurality of prescriptions, said dispensing machine dispensing the pills of the prescriptions of a prescription order into separate prescription bottles, said order consolidation means loading a plurality of prescription bottles of a prescription order containing more than one prescription into a common shipping container with a literature pack for such prescription order.

3. An automatic prescription filling and packing system as recited in claim 1 further comprising means to apply printed prescription labels to said prescription bottles prior to the insertion of said prescription bottles into a shipping container.

4. A prescription dispensing and packing system comprising a plurality of bottle carriers each having receptacles to receive a plurality of pill bottles, means to receive orders for prescriptions, means to load prescription bottles corresponding to the prescriptions of said orders into scheduled locations in said carriers, a prescription pill dispensing machine, means to transport said carriers with said prescription bottles through said dispensing machine, said dispensing machine dispensing the pills of said orders into the bottles in said carriers in accordance with the scheduled locations of the pill bottles in said carriers, order consolidation means receiving carriers from said dispensing machine and presenting shipping containers to be filled, each shipping container corresponding to an order, said order consolidation means unloading bottles from said carriers and loading bottles into shipping containers corresponding to the orders, said order consolidation means determining each bottle to go in each shipping container from the scheduled location of such bottle in a carrier.

5. A system as recited in claim 4, wherein said order consolidation means comprises a turntable to receive a plurality of said carriers, a robotic arm to unload prescription bottles from the carriers on said turntable and means to transport the bottles unloaded from the carriers into shipping containers.

6. (Once Amended) A system as recited in claim 4, including a plurality of dispensing machines each receiving carriers with bottles and dispensing pharmaceuticals into the prescription bottles corresponding to orders in accordance with the scheduled locations of said prescription bottles in said carriers, conveying means organizing said [carries] carriers into ranks of a plurality of carriers and passing a rank of carriers through said dispensing machines synchronously, said system further comprising a plurality of said order consolidation means and conveyer means to direct all the carriers of a rank to the same order consolidation means.

7. A system as recited in claim 4, wherein some of said orders include a plurality of prescriptions, said automatic dispensing machine dispensing each prescription of an order in a separate bottle, said order consolidation means loading a plurality of bottles of an order into a common shipping container.

8. A system for assembling prescriptions by prescription order wherein an order may include more than one prescription, comprising a multiplicity of carriers each having the capability of receiving a multiplicity of prescription bottles in scheduled locations, means responsive to an order to provide prescription bottles filled with pharmaceuticals in accordance with the prescriptions of said patient order in one or more of said carriers, an order consolidation and packing station, means to assemble a plurality of carriers at said order and packing station, and packing means at said order and consolidation station to remove the prescription bottles of said order from the scheduled locations in the carriers of said plurality and pack the bottles of said order in a container.

9. The system as recited in claim 8 further comprising means to print literature for said order and pack said literature in said container at said consolidation and packing station.

10. A system for sorting prescriptions by prescription order comprising a carrier having the capability of receiving a multiplicity of prescription bottles in assigned locations, means responsive to a prescription of an order to provide a prescription bottle filled with pharmaceuticals in accordance with said prescription in an assigned location in said carrier, an order consolidation and packing station comprising means to receive said carrier and remove said prescription bottle from said assigned location in said carrier and pack said prescription bottle in a container corresponding to said order.

11. A system as recited in claim 10 further comprising means to print literature corresponding to said order and pack said literature in said container at said order consolidation and packing station.

12. A method of sorting prescription bottles by prescription order comprising identifying prescription bottles corresponding to each order, placing the prescription bottles of each order in scheduled locations in carriers, each carrier having a multiplicity of locations to receive prescription bottles, maintaining a record for each order of the identification of the carriers containing the prescription bottles of each order and the scheduled location in said carriers of each prescription bottle of each order, and removing the prescription bottles from the scheduled locations in said carriers in accordance with said record and placing the prescription bottles of each order in a separate container.

13. A method as recited in claim 12 further comprising applying a label to each prescription bottle identifying the prescription in the order corresponding to said prescription bottle.

14. A method as recited in claim 12 further comprising filling said prescription bottles with pills in accordance with said patient orders after said prescription bottles have been placed in scheduled locations in said carrier.

15. A method as recited in claim 13 further comprising filling said prescription bottles after said prescription bottles have been labeled and placed in scheduled locations in said carriers.

16. An automatic prescription filling and packing system comprising:

at least one dispensing machine that automatically counts and dispenses pharmaceuticals into bottles in accordance with prescription orders comprising at least one prescription;

at least one printer for printing literature packs customized to the prescription orders; and

at least one order consolidation and packing (OCP) station that presents a shipping container for each prescription order and inserts at least one bottle for each prescription order into the shipping container and inserts, separately from the at least one bottle inserted into the shipping container, a corresponding literature pack for each prescription order into the shipping container corresponding to the prescription order.

17. The automatic prescription filling and packing system as recited in claim 16, wherein said at least one OCP station comprises:

a turntable for assembling a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a mechanical arm that removes the at least one bottle corresponding to a particular prescription order from at least one corresponding scheduled location in at least one of the plurality of carriers for subsequent packing of the at least one bottle in the shipping container corresponding to the particular prescription order; and

a bagging machine that receives the at least one bottle corresponding to the particular prescription order from said mechanical arm and inserts the at least one bottle corresponding to the particular prescription order into the shipping container corresponding to the particular prescription order.

18. The automatic prescription filling and packing system as recited in claim 17 wherein said at least one OCP station further comprises a carrier buffer that temporarily stores the plurality of carriers before they are received at said turntable.

19. The automatic prescription filling and packing system as recited in claim 17 wherein each of said at least one dispensing machine receives at least one of the plurality of carriers and dispenses pharmaceuticals into the bottles corresponding to each prescription order in accordance with the scheduled locations of the plurality of bottles in the plurality of carriers, and further comprising at least one transport device that organizes the plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least one dispensing machine synchronously, wherein each said at least one OCP station receives all the carriers of a rank.

20. The automatic prescription filling and packing system as recited in claim 17 wherein said at least one OCP station further comprises a star wheel system that receives the at least one bottle from said mechanical arm and inserts the at least one bottle into said bagging machine.

21. The automatic prescription filling and packing system as recited in claim 20 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one bottle from said mechanical arm and a second star wheel that rotates about a horizontal axis and receives the at least one bottle from said first star wheel and inserts the at least one bottle into said bagging machine.

22. The automatic prescription filling and packing system as recited in claim 17 wherein said at least one printer further prints a prescription label for each of the at least one bottle.

23. The automatic prescription filling and packing system as recited in claim 22 further comprising a label applicator that affixes the prescription label to each of the at least one bottle.

24. The automatic prescription filling and packing system as recited in claim 23 wherein said label applicator affixes the prescription label to each of the at least one bottle prior to insertion of the at least one bottle into the shipping container.

25. The automatic prescription filling and packing system as recited in claim 22 wherein the prescription label for each of the at least one bottle, a label for the shipping container corresponding to each prescription order, and the literature pack corresponding to each prescription order have an identifying mark that indicates that the at least one bottle, the shipping container, and the literature pack each correspond to a respective prescription order.

26. The automatic prescription filling and packing system as recited in claim 25 wherein the identifying mark is a bar code.

27. The automatic prescription filling and packing system as recited in claim 16 wherein for each prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

28. The automatic prescription filling and packing system as recited in claim 16 wherein the bottles are presented to said at least one OCP station in a plurality of carriers, each having receptacles to receive a plurality of bottles, the plurality of carriers each having an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

29. The automatic prescription filling and packing system as recited in claim 28 wherein the identification tag is a radio frequency identification tag.

30. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a computer that receives prescription orders comprising at least one prescription;

a loading station that loads the plurality of bottles in the scheduled locations corresponding to the prescription orders in at least one of said plurality of carriers;

at least one dispensing machine that counts and dispenses pharmaceuticals into the plurality of bottles;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, each shipping container corresponding to at least one of the prescription orders, said at least one OCP station unloading the plurality of bottles from said plurality of carriers and loading at least one of the plurality of bottles into at least one shipping container corresponding to at least one of the prescription orders, said at least one OCP station determining which of the plurality of bottles goes into the at least

one shipping container corresponding to the at least one of the prescription orders from the scheduled location of the plurality of bottles in said plurality of carriers.

31. The prescription dispensing and packing system as recited in claim 30, wherein said at least one OCP station further inserts into the shipping container corresponding to the at least one of the prescription orders a literature pack corresponding to the at least one of the prescription orders.

32. The prescription dispensing and packing system as recited in claim 30, wherein said at least one OCP station comprises:

a turntable for assembling said plurality of carriers;

a mechanical arm that removes the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container corresponding to each of the at least one of the prescription orders; and

a bagging machine that receives the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders from said mechanical arm and inserts the at least one of the plurality of bottles corresponding to each of the at least one of the prescription orders into the shipping container corresponding to each of the at least one of the prescription orders.

33. The prescription dispensing and packing system as recited in claim 32 wherein said at least one OCP station further comprises a carrier buffer that temporarily stores said plurality of carriers before they are received at said turntable.

34. The prescription dispensing and packing system as recited in claim 32 wherein said at least one OCP station further comprises a star wheel system that receives the at least one of the plurality of bottles from said mechanical arm and inserts the at least one of the plurality of bottles into said bagging machine.

35. The prescription dispensing and packing system as recited in claim 34 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one of the plurality of bottles from said mechanical arm and a second star wheel that rotates about a horizontal axis and receives the at least one of the plurality of bottles from said first star wheel and inserts the at least one of the plurality of bottles into said bagging machine.

36. The prescription dispensing and packing system as recited in claim 30 further comprising at least one printer that prints a prescription label for each of the at least one of the plurality of bottles.

37. The prescription dispensing and packing system as recited in claim 36 further comprising a label applicator that affixes the prescription label on each of the at least one

of the plurality of bottles in accordance with each of the at least one of the prescription orders.

38. The prescription dispensing and packing system as recited in claim 36 wherein the prescription label for each of the at least one of the plurality of bottles, the shipping container corresponding to each of the at least one prescription orders, and the literature pack corresponding to each of the at least one prescription orders have an identifying mark that indicates that the respective at least one of the plurality of bottles, the shipping container, and the literature pack each correspond to the at least one of the prescription orders.

39. The prescription dispensing and packing system as recited in claim 38 wherein the identifying mark is a bar code.

40. The prescription dispensing and packing system as recited in claim 30 wherein each of said at least one dispensing machine receives at least one of said plurality of carriers and dispenses pharmaceuticals into the bottles corresponding to the at least one of the prescription orders in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers, wherein each of said at least one transport device organizes respective said plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least dispensing machine synchronously, and wherein each respective said at least one OCP station receives all the carriers of a rank.

41. The prescription dispensing and packing system as recited in claim 30 wherein for each of the at least one of the prescription orders comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

42. The prescription dispensing and packing system as recited in claim 30 wherein each of said plurality of carriers has an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

43. The prescription dispensing and packing system as recited in claim 42 wherein the identification tag is a radio frequency identification tag.

44. A system for assembling prescriptions by prescription order, comprising:

at least one carrier, each having receptacles to receive at least one bottle in scheduled locations;

at least one dispensing machine responsive to at least one prescription order comprising at least one prescription to fill the at least one bottles in any of said at least one carrier with pharmaceuticals in accordance with the at least one prescription order; and

at least one order consolidation and packing (OCP) station at which the at least one bottle is unloaded from said at least one carrier and placed in a shipping container corresponding to the at least one prescription order.

45. The system as recited in claim 44 wherein said at least one OCP station comprises:

a turntable for assembling said at least one carrier;

a mechanical arm that removes the at least one bottle corresponding to the at least one prescription order from the scheduled locations in said at least one carrier for subsequent packing of the at least one bottle corresponding to the at least one prescription order in a shipping container corresponding to the at least one prescription order; and

a bagging machine that receives the at least one bottle corresponding to the at least one prescription order from said mechanical arm and inserts the at least one bottle in the shipping container corresponding to the at least one prescription order.

46. The system as recited in claim 45 wherein said at least one OCP station further comprises a carrier buffer that temporarily stores said at least one carrier before said at least one carrier is received at said turntable.

47. The system as recited in claims 45 wherein said at least one OCP station further comprises a star wheel system that receives the at least one bottle from said mechanical arm and inserts the at least one bottle into said bagging machine.

48. The system as recited in claim 47 wherein said star wheel system further comprises a first star wheel that rotates about a vertical axis and receives the at least one bottle from said mechanical arm and a second star wheel that rotates about a horizontal

axis and receives the at least one bottle from said first star wheel and inserts the at least one bottle into said bagging machine.

49. The system as recited in claim 44 further comprising at least one printer for printing a prescription label for each of the at least one bottle and for printing a literature pack for the at least one prescription order.

50. The system as recited in claim 49 further comprising a label applicator that affixes the printed prescription label on each of the at least one bottle in accordance with the at least one prescription order.

51. The system as recited in claim 50 wherein said label applicator affixes the prescription label on each of the at least one bottle prior to insertion of the at least one bottle into the shipping container corresponding to the at least one prescription order.

52. The system as recited in claim 51 wherein the prescription label for each of the at least one bottle, the shipping container corresponding to each of the at least one prescription order, and the literature pack corresponding each of the at least one prescription order each have an identifying mark that indicates that the at least bottle, the shipping container, and the literature pack each correspond to the respective at least one prescription order.

53. The system as recited in claim 52 wherein the identifying mark is a bar code.

54. The system as recited in claim 44 wherein each of said at least one dispensing machine receives at least one of said at least one carrier and dispenses pharmaceuticals into each of the at least one bottle corresponding to the respective at least one prescription order in accordance with the scheduled locations of the plurality of bottles in said at least one carrier, and further comprising at least one transport device that organizes said at least one carrier into ranks of carriers and passes the ranks of carriers through at least two of said at least one dispensing machine synchronously, wherein each respective said at least one OCP station receives all the carriers of a rank.....

55. The system as recited in claim 44 wherein for each of the at least one prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription comprising a plurality of prescriptions into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

56. The system as recited in claim 44 wherein each of said at least one carrier has an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

57. The system as recited in claim 56 wherein the identification tag is a radio frequency identification tag.

58. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a computer that receives prescription orders comprising at least one prescription;

at least one loading station that loads the plurality of bottles into the scheduled locations of said plurality of carriers;

at least one dispensing machine responsive to said computer that counts and dispenses pharmaceuticals into the plurality of bottles;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders received by said computer into the plurality of bottles in said plurality of carriers in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, each shipping container corresponding to a prescription order, and inserts at least one of the plurality of bottles and a corresponding literature pack for the prescription order into a shipping container corresponding to the prescription order, so that the shipping container corresponding to the prescription order contains the at least one bottle and the literature pack.

59. The prescription dispensing and packing system as recited in claim 58 wherein said at least one OCP station determines which of the at least one bottle is inserted in

each respective shipping container from the scheduled locations of the plurality of bottles in at least one of said plurality of carriers.

60. The prescription dispensing and packing system as recited in claim 58, wherein said at least one OCP station comprises:

a turntable for assembling said plurality of carriers;

a mechanical arm that removes the at least one of the plurality of bottles corresponding to the prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container corresponding to the prescription order; and

a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said mechanical arm and inserts the at least one of the plurality of bottles corresponding to the prescription order in the shipping container corresponding to the prescription order.

61. The prescription dispensing and packing system as recited in claim 60 wherein said mechanical arm is responsive to said computer in determining which of the at least one of the plurality of bottles is packed in the shipping container corresponding to the prescription order.

62. The prescription dispensing and packing system as recited in claim 60 wherein said at least one OCP station further comprises a carrier buffer that temporarily stores said plurality of carriers before they are transferred to said turntable.

63. The prescription dispensing and packing system as recited in claim 60 wherein said at least one OCP station further comprises a star wheel system that receives the at least one of the plurality of bottles from said mechanical arm and inserts the at least one of the plurality of bottles into said bagging machine.

64. The prescription dispensing and packing system as recited in claim 63 wherein said star wheel system further comprises a first star wheel that rotates about a vertical axis and receives the at least one of the plurality of bottles from said mechanical arm and a second star wheel that rotates about a horizontal axis and receives the at least one of the plurality of bottles from said first star wheel and inserts the at least one of the plurality of bottles into said bagging machine.

65. The prescription dispensing and packing system as recited in claim 58 further comprising at least one printer for printing a prescription label for each of the at least one of the plurality of bottles and for printing the literature pack for the prescription order.

66. The prescription dispensing and packing system as recited in claim 65 wherein said bagging machine inserts the literature pack corresponding to the prescription order into the shipping container corresponding to the prescription order.

67. The prescription dispensing and packing system as recited in claim 65 further comprising a label applicator that affixes one of the prescription labels on each of the at least one of the plurality of bottles in accordance with the prescription order.

68. The prescription dispensing and packing system as recited in claim 67 wherein said label applicator affixes one of the prescription labels on each of the at least one of the plurality of bottles prior to insertion of the at least one of the plurality of bottles into the shipping container corresponding to the prescription order.

69. The prescription dispensing and packing system as recited in claim 68 wherein the prescription label for each of the at least one of the plurality of bottles, the shipping container corresponding to the prescription order, and the literature pack corresponding to the prescription order each have an identifying mark that indicates that the at least one of the plurality of bottles, the shipping container, and the literature pack each correspond to the prescription order.

70. The prescription dispensing and packing system as recited in claim 69wherein the identifying mark is a bar code. bar code

71. The prescription dispensing and packing system as recited in claim 58 wherein each of said at least one dispensing machine receives at least one of said plurality of carriers and dispenses pharmaceuticals into the at least one of the plurality of bottles corresponding to the prescription order in accordance with the scheduled locations of the

plurality of bottles in said plurality of carriers, wherein each of said at least one transport device organizes said plurality of carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least dispensing machine synchronously, and wherein each respective said at least one OCP station receives all the carriers of a rank.

72. The prescription dispensing and packing system as recited in claim 58 wherein for each prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container corresponding to the prescription order.

73. The prescription dispensing and packing system as recited in claim 58 wherein each of said plurality of carriers has an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

74. The prescription dispensing and packing system as recited in claim 73 wherein the identification tag is a radio frequency identification tag. radio frequency

75. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

at least one loading station that loads at least one of the plurality of bottles into at least one of said plurality of carriers;

at least one dispensing machine that counts and dispenses pharmaceuticals into the plurality of bottles in accordance with prescription orders;

at least one transport device that transports said plurality of carriers with the plurality of bottles through said at least one dispensing machine, said at least one dispensing machine dispensing the pharmaceuticals of the prescription orders into the plurality of bottles corresponding to the prescription orders in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers; and

at least one order consolidation and packing (OCP) station that receives said plurality of carriers from said at least one dispensing machine and presents shipping containers to be filled, each shipping container corresponding to a prescription order, said at least one OCP station unloading the plurality of bottles from said plurality of carriers and loading at least one of the plurality of bottles into a shipping container corresponding to the prescription order, said at least one OCP station determining which of the at least one of the plurality of bottles goes into each shipping container corresponding to the prescription order from the scheduled location of the plurality of bottles in said plurality of carriers.

76. The prescription dispensing and packing system as recited in claim 75, wherein said at least one OCP station further inserts into the shipping container corresponding to the prescription order a literature pack corresponding to the prescription order.

77. The prescription dispensing and packing system as recited in claim 75 wherein said at least one OCP station comprises:

a turntable for assembling said plurality of carriers;

a mechanical arm that removes the at least one of the plurality of bottles corresponding to the prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one of the plurality of bottles in the shipping container corresponding to the prescription order; and

a bagging machine that receives the at least one of the plurality of bottles corresponding to the prescription order from said mechanical arm and inserts the at least one of the plurality of bottles corresponding to the prescription order into the shipping container corresponding to the prescription order.

78. The prescription dispensing and packing system as recited in claim 77 wherein said at least one OCP station further comprises a carrier buffer that temporarily stores said plurality of carriers before they are received at said turntable.

79. The prescription dispensing and packing system as recited in claim 77 wherein said at least one OCP station further comprises a star wheel system that receives the at least one of the plurality of bottles from said mechanical arm and inserts the at least one of the plurality of bottles into said bagging machine.

80. The prescription dispensing and packing system as recited in claim 79 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one of the plurality of bottles from said mechanical arm and a second

star wheel that rotates about a horizontal axis and receives the at least one of the plurality of bottles from said first star wheel and inserts the at least one of the plurality of bottles into said bagging machine.

81. The prescription dispensing and packing system as recited in claim 76 further comprising at least one printer for printing a prescription label for each of the at least one of the plurality of bottles and for printing a literature pack for the prescription order.

82. The prescription dispensing and packing system as recited in claim 81 wherein said bagging machine inserts the literature pack corresponding to the prescription order into the shipping container corresponding to the prescription order.

83. The prescription dispensing and packing system as recited in claim 81 further comprising a label applicator that affixes one of the prescription labels on each of the at least one of the plurality of bottles in accordance with the prescription order.

84. The prescription dispensing and packing system as recited in claim 83 wherein the prescription label for each of the at least one of the plurality of bottles, the shipping container corresponding to the prescription order, and the literature pack corresponding to the prescription order each have an identifying mark that indicates the at least one of the plurality of bottles, the shipping container, and the literature pack each correspond to the prescription order.

85. The prescription dispensing and packing system as recited in claim 84 wherein the identifying mark is a bar code. bar code

86. The prescription dispensing and packing system as recited in claim 83 wherein said label applicator affixes the prescription label to each of the at least one of the plurality of bottles prior to insertion of the at least one of the plurality of bottles into the shipping container corresponding to the prescription order.

87. The prescription dispensing and packing system as recited in claim 75 wherein each of said at least one dispensing machine receives at least one of said plurality of carriers and dispenses pharmaceuticals into the at least one of the plurality of bottles corresponding to the prescription order in accordance with the scheduled locations of the plurality of bottles in said plurality of carriers, wherein each of said at least one transport device organizes respective said carriers into ranks of carriers and passes the ranks of carriers through at least two of said at least dispensing machine synchronously, and wherein each respective said at least one OCP station receives all the carriers of a rank.

88. The prescription dispensing and packing system as recited in claim 75 wherein for each prescription order comprising a plurality of prescriptions, said at least one dispensing machine dispenses each prescription into a separate bottle for each prescription, and said at least one OCP station loads the separate bottles for each prescription into a common shipping container.

89. The prescription dispensing and packing system as recited in claim 75 wherein each of said at least one carrier has an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

90. he prescription dispensing and packing system as recited in claim 89 wherein the identification tag is a radio frequency identification tag.

91. A method for filling and packaging a prescription order comprising at least one prescription, comprising the steps of:

counting out and dispensing pharmaceuticals into at least one bottle in accordance with at least one prescription order;

printing a literature pack customized to each of the at least one prescription order;

inserting the at least one bottle corresponding to each of the at least one prescription order into a shipping container corresponding to each of the at least one prescription order; and

inserting the literature pack corresponding to each of the at least one prescription order, separate from inserting the at least one bottle corresponding to each of the at least one prescription order into the shipping container corresponding to the at least one prescription order, into the shipping container corresponding to the respective at least one prescription order.

92. The method as recited in claim 91 further comprising the step of applying a printed prescription label to each of the at least one bottle corresponding to each of the at least one prescription order.

93. The method as recited in claim 92 wherein each prescription label is applied prior to said inserting the at least one bottle step.

94. The method as recited in claim 92 further comprising the step of providing an identifying mark on: each prescription label that is applied to each of the at least one bottle, the shipping container corresponding to each of the at least one prescription order, and the literature pack corresponding to each of the at least one prescription order, wherein the identifying mark indicates that the respective each of the at least one bottle, the shipping container, and the literature pack each correspond to the respective at least one prescription order.

95. The method as recited in claim 94 wherein the identifying mark is a bar code. bar code

96. A method of dispensing and packing pharmaceuticals comprising the steps of:

providing a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

receiving at least one prescription order, each of the at least one prescription order comprising at least one prescription;

loading at least one bottle corresponding to each of the at least one prescription order into scheduled locations into at least one of the plurality of carriers;

transporting the plurality of carriers with the prescription bottles through at least one dispensing device that dispenses pharmaceuticals of each of the at least one prescription order into the plurality of bottles in accordance with the scheduled locations of the plurality of bottles in the plurality of carriers; and

loading at least one of the plurality of bottles and a corresponding literature pack into a shipping container corresponding to each of the at least one prescription order as determined by the scheduled locations of the plurality of bottles.

97. The method as recited in claim 96 further comprising the step of applying a printed prescription label to each of the at least one of the plurality of bottles.

98. The method as recited in claim 97 wherein the prescription labels are applied prior to said loading at least one bottle step.

99. The method as recited in claim 96 wherein each of the at least one dispensing device receives at least one of the plurality of carriers and dispenses pharmaceuticals into the plurality of bottles corresponding to each of the at lest one prescription order in accordance with the scheduled locations; and further comprising the step of organizing the plurality of carriers into ranks of carriers and passing the ranks of carriers through at least two of the at least one dispensing device synchronously.

100. The method as recited in claim 96 further comprising the step of providing an identifying mark on: each prescription label that is affixed to each of the at least one bottle, the shipping container corresponding to each of the at least one prescription order, and the literature pack corresponding to each of the at least one prescription order, wherein the identifying mark indicates that each of the at least one bottle, the shipping container, and the literature pack correspond to each of the respective at least one prescription order.

101. The method as recited in claim 100 wherein the identifying mark is a bar code.

102. The method as recited in claim 96 further comprising the step of affixing an identification tag on each of the plurality of carriers to ensure that the correct carrier is received at the at least one dispensing device.

103. The method as recited in claim 102 wherein the identification tag is a radio frequency identification tag.

104. A method of assembling prescriptions by prescription order, comprising the steps of:

providing a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

providing at least one dispensing device that, in response to a prescription order comprising at least one prescription, fills at least one of the plurality of bottles with pharmaceuticals; and

packing the at least one of the plurality of bottles corresponding to the prescription order in a shipping container corresponding to the prescription order.

105. The method as recited in claim 104 further comprising the steps of:

printing a literature pack for the prescription order; and

inserting the literature pack in the shipping container corresponding to the prescription order.

106. The method as recited in claim 105 further comprising the step of providing an identifying mark on: a prescription label that is affixed to each of the at least one bottle, the shipping container corresponding to the prescription order, and the literature pack corresponding to the prescription order, wherein the identifying mark indicates that each of the at least one bottle, the shipping container, and the literature pack each correspond to the prescription order.

107. The method as recited in claim 106 wherein the identifying mark is a bar code.

108. The method as recited in claim 104 further comprising the step of affixing an identification tag on each of the plurality of carriers to ensure that the correct carrier is received at the at least one dispensing device.

109. The method as recited in claim 108 wherein the identification tag is a radio frequency identification tag.

110. A method for sorting prescriptions by prescription order, comprising the steps of:

receiving a plurality of bottles, each having an assigned location in a bottle carrier corresponding to a prescription order comprising at least one prescription;

filling at least one of the plurality of bottles with pharmaceuticals in accordance with the prescription order; and

packing at least one of the plurality of bottles in a shipping container corresponding to the prescription order.

111. The method as recited in claim 110 further comprising the steps of:

printing a literature pack for the prescription order; and

inserting the literature pack in the shipping container.

112. The method as recited in claim 111 further comprising the step of providing an identifying mark on: a prescription label that is affixed to each of the at least one of the plurality of bottles, the shipping container corresponding to the prescription order, and the literature pack corresponding to the prescription order, wherein the identifying mark indicates that each of the at least one of the plurality of bottles, the shipping container, and the literature pack each correspond to the prescription order.

113. The method as recited in claim 110 wherein the identifying mark is a bar code.

114. A prescription dispensing and packing system comprising:

a plurality of carriers, each having receptacles to receive a plurality of bottles in scheduled locations;

a computer that receives prescription orders; and

at least one dispensing machine responsive to said computer that automatically counts and dispenses the type and quantity of pharmaceuticals into the plurality of bottles in accordance with the prescription orders in the scheduled locations of the corresponding plurality of carriers.

115. The prescription dispensing and packing system as recited in claim 114 further comprising at least one order consolidation and packing (OCP) station at which the plurality of bottles are unloaded from said plurality of carriers and placed in shipping containers corresponding to the prescription orders.

116. The prescription dispensing and packing system as recited in claim 115 wherein said at least one OCP station comprises:

a turntable for assembling said plurality of carriers;

a mechanical arm that removes at least one bottle corresponding to a prescription order from at least one corresponding scheduled location in at least one of said plurality of carriers for subsequent packing of the at least one bottle in a shipping container corresponding to the prescription order; and

a bagging machine that receives the at least one bottle corresponding to the prescription order from said mechanical arm and inserts the at least one bottle corresponding to the prescription order in the shipping container corresponding to the prescription order.

117. The prescription dispensing and packing system as recited in claim 116 wherein said at least one OCP station further comprises:

a printer that prints a literature pack for the prescription order; and

a first bar code reader that reads a bar code associated with the literature pack for the prescription order.

118. The prescription dispensing and packing system as recited in claim 117 wherein said mechanical arm uses a second bar code reader to read a bar code on a prescription label affixed to each of the at least one bottle that indicates the type and quantity of pharmaceuticals dispensed therein, said computer verifying that the bar codes read by said first and second bar code readers are associated with the same prescription order, said bagging machine inserting the literature pack into the shipping container with the at least one bottle corresponding to the prescription order.

119. The prescription dispensing and packing system as recited in claim 116 wherein said at least one OCP station further comprises a star wheel system that receives the at least one bottle from said mechanical arm and inserts the at least one bottle into said bagging machine.

120. The prescription dispensing and packing system as recited in claim 119 wherein said star wheel system comprises a first star wheel that rotates about a vertical axis and receives the at least one bottle from said mechanical arm and a second star wheel that rotates about a horizontal axis and receives the at least one bottle from said first star wheel and inserts said at least one bottle into said bagging machine.

121. The prescription dispensing and packing system as recited claim 114 wherein said at least one dispensing machine fills any of a plurality of bottle sizes with any of a plurality of pharmaceuticals as determined by said computer.

122. The prescription dispensing and packing system as recited in claim 114 wherein each of said plurality of carriers has an identification tag affixed thereto to ensure that the correct carrier is presented to said at least one OCP station.

123. The prescription dispensing and packing system as recited in claim 122 wherein the identification tag is a radio frequency identification tag.

124. A method of operating a pharmaceutical dispensing line, comprising the steps of:

in a single run, dispensing into bottles different quantities of different pharmaceuticals in accordance with at least one prescription order comprising at least one prescription; and

affixing labels to the bottles that identify the quantity and type of pharmaceuticals contained in each bottle, thereby providing individual prescription orders for shipping to customers.

125. The method as recited in claim 124 wherein the bottles are at least two different sizes.

126. The method as recited in claim 124 further comprising the step of placing in a shipping container at least one bottle corresponding to a prescription order.

127. The method as recited in claim 126 further comprising the steps of:

printing a literature pack corresponding to the prescription order;

verifying that the literature pack and the at least one bottle correspond to the prescription order; and

placing the literature pack corresponding to the prescription order in a shipping container.

128. The method as recited in claim 127 further comprising the step of providing an identifying mark on: a prescription label that is affixed to each of the at least one bottle, the shipping container corresponding to the prescription order, and the literature pack corresponding to the prescription order, wherein the identifying mark indicates that each of the at least one bottle, the shipping container, and the literature pack each correspond to the prescription order.

129. The method as recited in claim 128 wherein the identifying mark is a bar code.

130. A method of operating a pharmaceutical dispensing line, comprising the steps of:

dispensing into bottles, in a single run, different quantities of different pharmaceuticals in accordance with prescription orders comprising at least one prescription;

affixing automatically to each of the bottles labels that identify the quantity and type of pharmaceuticals contained in each of the bottles; and

packaging the bottles corresponding to prescription orders in containers corresponding to the respective prescription orders, thereby providing individual prescription orders for shipping to customers.

131. The method as recited in claim 130 wherein the bottles are at least two sizes.

132. The method as recited in claim 131 wherein in said packaging step different size bottle caps are placed on the bottles in accordance with bottle size.

133. The method as recited in claim 130 wherein said affixing step further comprises the step of printing a respective individual label for each of the bottles.

134. The method as recited in claim 133 wherein said printing step prints at least the name of each individual, in addition to the quantity and type of pharmaceutical, on each of the labels.

add B14 >